720 Series II
pH & ORP
MONITOR/CONTROLLER
Operation
Manual

29 Oct 08

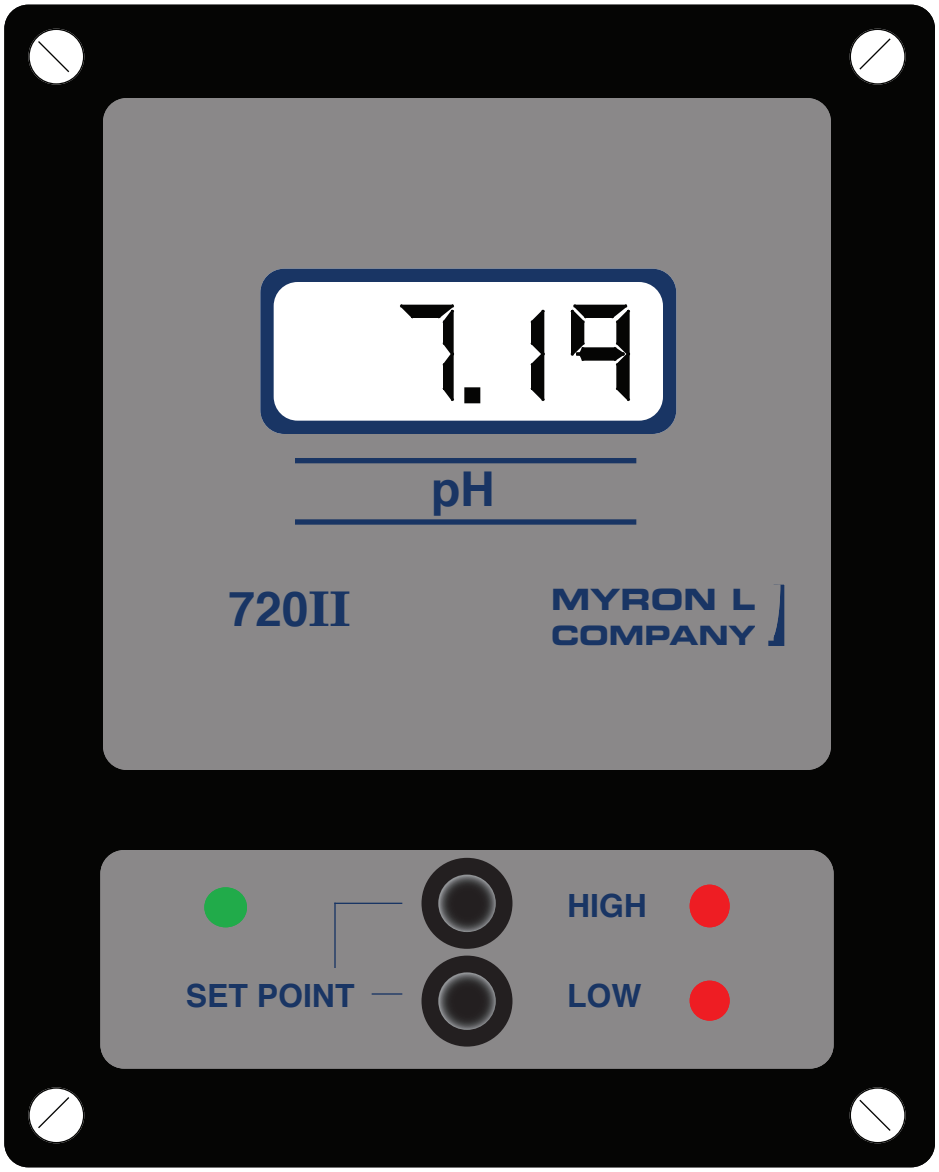
INSTALLATION • OPERATION • MAINTENANCE

pH Models: 721II, 722II, 723II & 724II

ORP Models: 726II, 727II, 728II & 729II

ACCURACY • RELIABILITY• SIMPLICITY

MYRON L COMPANY
Water Quality Instrumentation
Accuracy • Reliability • Simplicity



720 Series II

Model 723II-SC

**(A Digital pH Monitor/controller,
with a Second Alarm/Control)**

720 Series II MONITOR/CONTROLLER QUICK REFERENCE GUIDE!

If you read nothing else in this manual please read this Quick Reference Guide.

PLEASE READ and COMPREHEND ALL WARNINGS, CAUTIONS and ADVISEMENTS CONTAINED WITHIN THIS MANUAL.
Failure to comply is beyond the responsibility of the Myron L Company.

WARNING: ALL MONITOR/CONTROLLERS ARE FACTORY SET TO OPERATE ON 115 VAC. BEFORE APPLYING POWER ENSURE THE INPUT POWER "115/230 VAC" SELECTION IS CORRECT FOR YOUR REQUIREMENTS. FAILURE TO DO SO IS BEYOND THE RESPONSIBILITY OF THE MYRON L COMPANY. See section II.E.2. and figure II.E.1.

WARNING: ENSURE POWER IS OFF WHILE INSTALLING ELECTRICAL EQUIPMENT. IF MONITOR/CONTROLLER IS INSTALLED, ENSURE THE POWER IS OFF BEFORE SERVICING. FAILURE TO DO SO COULD CAUSE DAMAGE TO THE INSTRUMENT, AND COULD BE HARMFUL OR FATAL TO PERSONNEL. ONLY QUALIFIED PERSONNEL SHOULD INSTALL OR SERVICE ELECTRICAL EQUIPMENT.

WARNING: THE DISPLAY WILL BE IRREPARABLY DAMAGED IF THE DISPLAY HARNESS IS INSTALLED UPSIDE-DOWN OR MISALIGNED. THE HARNESS MUST BE INSTALLED AS SHOWN IN FIGURE II.E.5.

CAUTIONS:
Before installation, ensure you have the correct model (with options), AND it is ranged for your application. See sections I.A., I.B. & I.G.
Do you have the correct sensor? See section I.E.
Mounting requirements. What is needed? See section II.B.
Isolated 24 VDC output is referenced to the 0-10 VDC output. To maintain the isolation, do NOT ground. See section II.B.4.

The following will give the installer and user a quick overview. See the sections listed for details.

REMOVING FRONT PANEL
NOTE: When opening instrument, remove front cover with care; a ribbon cable connects the front panel and main board.

1. Ensure power is **OFF**.
2. Remove the screws on the front panel.
3. Carefully wiggle the front panel to loosen the gasket and pull gently toward you. Do not pull more than about 8 inches/20CM or you could damage the wiring harness.

REASSEMBLY

1. Carefully reinstall the front panel, bottom first. Ensure no wires have been pinched between enclosure and front panel.
2. Reinstall the screws and tighten.
3. To operate, turn power **ON**.

INTRODUCTION - Section I.
This section covers the specifications of your new Monitor/controller including sensor information.

INSTALLATION - Section II.
This section covers how to install your new Monitor/controller; mechanically and electrically.

OPTIONS & ACCESSORIES - Section III.
This section covers the specifications, installation, set up, and operation of each option.

QUICK LOCATOR
SC/SCO MODULE, (Second Relay), see section III.A.

4A/4AO MODULE (4-20mA), see section III.B.

TP/TPO MODULE (Temperature), see section III.C.

TH/THO MODULE (Alarm /control Harness), see section III.D.

DUAL (stacking) Temperature (TPO) & 4-20mA (4A/4AO), see section III.E.

PA/PAO (Piezo Alarm), see section III.F.

RA (Remote Alarm), see section III.G.

OPERATING PROCEDURES - Section IV.
This section covers a brief description of different models and their features; how they work, and how to set them up for your particular use.

QUICK SET POINT CONVERSION (SPC) / REVERSING SET POINT - See Section IV.C.1.
pH & ORP Monitor/controllers are configured to trigger the alarm relay as the reading increases.

To reverse:

1. Locate the jumper block for the alarm to be configured. See figure V.A.1.
2. Remove and rotate the jumpers 1/4 turn and reinstall them on their posts.

QUICK CHECK-OUT PROCEDURE - See Section IV.C.2.
It is assumed that the Monitor/controller power is **ON**, that it is connected to an appropriate Sensor, and that the Sensor is immersed in water within the range that the Monitor/controller will be required to read; and the front panel is removed.

1. Make a note of the reading on the display.
2. While pressing the Calibration/Full Scale Test Switch (FS SW), verify that the front panel display is indicating a full scale reading. If not, see Calibration, section V.C.

Continued

3. Press and hold the “SET POINT” switch on the front panel. Using a tweaker or a small screwdriver, adjust the Set Point trimmer adjustment screw on the circuit board to sweep the display from zero to full scale. (A digital display may be blank at the full scale end. This is normal.) Listen for the alarm relay to click on and off as the alarm set point moves past the water reading.
4. Adjust the alarm to the desired set point value. Release the “SET POINT” switch.

NOTE: For Models with SC/SCO module, repeat STEPS 3 & 4 to check out Set Point #2.

QUICK SET POINT ADJUSTMENT - See Section IV.C.3.

The set point setting is based upon the user’s particular water purity specifications or requirements. **NOTE:** The optional **second** relay/alarm is “stacked” on the first relay/alarm, therefore, when setting the optional **second** relay/alarm Set Point, the #1 Set Point must be ‘set’ first.

1. While pressing the “SET POINT” switch, turn the Set Point #1 adjustment screw (see figure V.A.1) until the desired set point value is indicated on the display.

HYSTERESIS (DEAD BAND) ADJUSTMENT - See Section IV.C.4.

PRIMARY COMPONENT IDENTIFICATION - Section V.A.

Review the figure below to familiarize yourself with the Main circuit board assembly. The diagram has the second alarm/control module option installed.

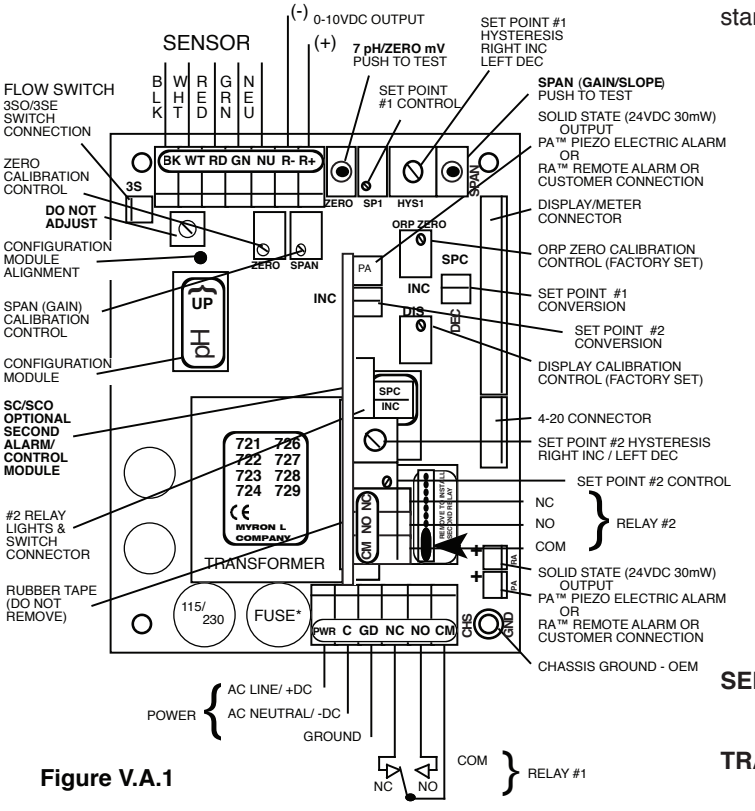


Figure V.A.1

QUICK CALIBRATION - Section V.C.

WARNING: When performing calibration procedures, the technician must take extreme care to avoid contacting the circuitry other than the CALibration control. Failure to do so could result in damage to the equipment, property and/or personal injury.

The following assumes the front panel has been removed and the power is ON.

ELECTRONIC CALIBRATION (CIRCUIT ONLY) - See Section V.C.1.

ZERO Adjustment

1. Press and hold the **ZERO** Test switch. The display should indicate 7 pH or 0 mV selected. If not, set to 7 pH or 0 mV with the **ZERO CAL**ibration control.
2. Turn power **OFF**.
3. Re-install front panel as described in “REASSEMBLY”.
4. To operate, turn power **ON**.

0-10VDC Recorder Calibration - See Section V.C.2.

Using Standard Solutions - Section V.C.3.

The **BEST** method of verifying and recalibrating your pH or ORP Monitor/controller is with NIST traceable Standard Solution (available from the Myron L Company). Because it includes the sensor, the entire system is recalibrated.

NOTE: Another means of verification or calibration of pH or ORP models is to use the transfer standard method, using a hand-held or portable instrument capable of these measurements, i.e. the Myron L Ultrameter™. See section V.C.4 for description.

The following procedure describes the easiest method for standard solution calibration of your Monitor/controller.

1. Using 7pH buffer solution rinse a clean glass beaker thoroughly with the buffer solution.
2. Place sensor in the beaker of buffer solution. Level of buffer solution should be high enough to cover at least 1” above the sensor lower end.
3. Carefully shake the sensor to remove air bubbles from inside the sensor bore hole.
4. Allow 5-10 minutes for temperature to equilibrate. For the quickest and the best results, both the sensor and solution should be at the same temperature.
5. Read the panel meter/display. The display should match the value and units of measure located on the bottle of buffer solution. If the reading is different, adjust **ZERO calibration** control on the main control circuit board until the reading is 7pH or 0mV.
6. Repeat steps 2 - 5 using either 4 or 10 pH buffer solution.
7. If reading is incorrect, adjust **SPAN calibration** control on the main control circuit board until reading matches buffer solution.
8. After adjustment, turn power **OFF**.
9. Re-install front panel as described in “REASSEMBLY”.
10. To operate, turn power **ON**.

SENSOR SUBSTITUTE CALIBRATION - See Section V.C.4.

TRANSFER STANDARD METHOD - See Section V.C.5.

VIII. WARRANTY

All Myron L Company pH and ORP Monitor/controllers have a **TWO-year** warranty. If any Monitor/controller fails to function normally, return the faulty unit to the factory prepaid. If, in the opinion of the factory, failure was due to materials or workmanship, repair or replacement will be made without charge.

All pH and ORP sensors have a six (6) month limited warranty. If any sensor fails during that time, return the failed sensor to the factory, prepaid. If, in the opinion of the factory, failure was due to materials or workmanship, repair or replacement will be made without charge.

A reasonable service charge will be made for diagnosis or repairs due to normal wear, abuse or tampering. Warranty is limited to the repair or replacement of Monitor/controller or sensor only. The Myron L Company assumes no other responsibility or liability.

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ADDITIONAL INFORMATION

Custom Monitors/controllers available, contact us with your special needs. Price and delivery upon request.

ALL SPECIAL ORDER ITEMS ARE NON-RETURNABLE AND NON-REFUNDABLE.

Because of our policy of continuous product improvement, the Myron L Company reserves the right to make changes in design, specifications, and prices without notice.

Minimum order $25.00. All prices are US dollars and are F.O.B. Carlsbad, CA. USA.

Terms: 1% 10 days, net 30 days upon receipt of sufficient credit information.

Export orders: payment in advance, sight draft collection, or credit card.